

## Contributors to this Issue

EDWIN H. COLPITTS, who has recently retired as Executive Vice President of the Bell Telephone Laboratories, scarcely needs an introduction. In 1899 he left Harvard to begin his career of research and development in the Bell System. In 1907, when development work was transferred from Boston to the Engineering Department of the Western Electric Company in New York, he also transferred and headed the Physical Laboratory. Later, with the formation of a Research Department, he became its head. In 1933, preliminary to the consolidation of the Department of Development and Research of the American Telephone and Telegraph Company with the Laboratories, Dr. Colpitts was appointed Executive Vice President.

W. B. ELLWOOD, A.B., University of Missouri, 1924; M.A., Columbia University, 1926; Ph.D., Columbia University, 1933. Bell Telephone Laboratories, 1930-. Dr. Ellwood has been engaged in various investigations relating to magnetic materials and measurements.

C. N. HICKMAN, A.B., Winona College, 1914; M.A., Clark University, 1917; Ph.D., Clark University, 1922. Physicist, Bureau of Standards, 1919-22; Physicist, U. S. Navy Yard, 1922-24; Research Physicist, American Piano Company, 1924-30; Bell Telephone Laboratories, 1930-. Since 1930 Dr. Hickman has been engaged in the development of special acoustical instruments.

C. M. HILL, B.S. in Chemistry, Princeton University. American Telephone and Telegraph Company, Long Lines Department, 1929-30; Bell Telephone Laboratories, 1930-. Mr. Hill's work has been on the biometrical problems of wood preservation.

VICTOR E. LEGG, B.A., 1920, M.S., 1922, University of Michigan. Research Department, Detroit Edison Company, 1920-21; Bell Telephone Laboratories, 1922-. Mr. Legg has been engaged in the development of magnetic materials and in their applications, particularly for the continuous loading of cables, and for compressed dust cores.

JOHN LEUTRITZ, B.S. in Chemistry, Bowdoin College, 1929; A.M. in Botany, Columbia University, 1934. U. S. Navy, Medical Corps, 1921-25. Bell Telephone Laboratories, 1929-. Mr. Leutritz' interest has been along biological lines, primarily in respect to wood preservation.

E. L. NORTON, S.B. in Electrical Engineering, Massachusetts Institute of Technology, 1922; M.A., Columbia University, 1925. Western Electric Company, Engineering Department, 1922-25; Bell Telephone Laboratories, 1925-. Mr. Norton has been engaged in the study of network and transmission problems. His present work is in connection with signaling circuits and apparatus.

TODOS M. ODARENKO, University of Technique in Prague, E.E., 1928. New York Telephone Company, 1928-30; Bell Telephone Laboratories, 1930-. Mr. Odarenko has been engaged in the measurement and study of transmission characteristics of existing and newly developed types of transmission lines.

S. A. SCHELKUNOFF, B.A., M.A. in Mathematics, The State College of Washington, 1923; Ph.D. in Mathematics, Columbia University, 1928. Engineering Department, Western Electric Company, 1923-25; Bell Telephone Laboratories, 1925-26. Department of Mathematics, State College of Washington, 1926-29. Bell Telephone Laboratories, 1929-. Dr. Schelkunoff has been engaged in mathematical research, especially in the field of electromagnetic theory.

ALBERT C. WALKER, B.S., Massachusetts Institute of Technology, 1918; Ph.D., Yale University, 1923. Bell Telephone Laboratories, 1923-. Dr. Walker has been engaged in developing and applying methods of improving the electrical properties of textile insulation and methods for the inspection control of commercially purified textiles for telephone apparatus.

R. E. WATERMAN, B.S. in Chemical Engineering, Williams College and Massachusetts Institute of Technology. Western Electric Company, 1922-25; Bell Telephone Laboratories, 1925-. Mr. Waterman has been engaged in organic and biochemical investigations and for the past few years has been in charge of a group studying the chemical phases of wood preservation.